

**WHAT IS CLAIMED IS:**

1. A base station apparatus in a mobile communication system supporting packet data transmission, comprising:

5 a controller for generating a data rate request (DRQ) message for requesting transmission of a data rate, when there is a packet to transmit in a state where there is no data communication between the base station and a mobile station; and

10 a channel transmitter for transmitting the data rate request message generated from the controller to the mobile station.

2. The base station apparatus as claimed in claim 1, wherein the data rate request message is comprised of a prescribed number of identical power control bits.

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3. The base station apparatus as claimed in claim 1, wherein the channel transmitter includes a shared power control channel (SPCCH) transmitter for transmitting a power control bit for controlling transmission power of the mobile station.

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4. The base station apparatus as claimed in claim 1, wherein the controller provides the channel transmitter with an ACK (Acknowledgment) message in response to a detection ACK signal of the data rate request message from the mobile station.

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5. The base station apparatus as claimed in claim 4, wherein the ACK message is comprised of a prescribed number of identical power control bits.

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6. The base station apparatus as claimed in claim 4, wherein the

controller provides the channel transmitter with a power control bit for controlling transmission power of the mobile station, after transmitting the ACK message.

5        7. A mobile station apparatus in a mobile communication system supporting packet data transmission, comprising:

10        a gating signal generator for generating a gating signal for gating on/off a reverse signal transmitted to a base station after completion of packet data communication , and generating a gating signal for immediately resuming transmission of the reverse signal upon receipt of a data rate request message for requesting transmission of a data rate from the base station when there is no data communication between the base station and the mobile station ;

15        a controller for gating on/off the reverse signal according to the gating signal from the gating signal generator; and

15        a transmitter for gating transmission of the reverse signal transmitted to the base station according to the control signal from the controller.

20        8. The mobile station apparatus as claimed in claim 7, wherein the controller provides the transmitter with a power control signal for the reverse signal so as to increase transmission power of the reverse signal little by little from predetermined initial access power, upon resumption of the reverse signal.

25        9. The mobile station apparatus as claimed in claim 7, wherein the controller provides the transmitter with a power control signal for the reverse signal so as to control transmission power of the reverse signal according to a power control bit received from the base station, after receipt of an ACK message responsive to transmission of the reverse signal.

30        10. The mobile station apparatus as claimed in claim 7, wherein the data rate request message is comprised of a prescribed number of identical power

control bits.

11. The mobile station apparatus as claimed in claim 9, wherein the ACK message is comprised of a prescribed number of identical power control 5 bits.

12. The mobile station apparatus as claimed in claim 11, wherein the data rate request message and the ACK message are received over a forward shared power control channel (SPCCH).

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13. A packet data transmission method of a base station in a state where there is no data communication between the base station and a mobile station , comprising the steps of:

transmitting a data rate request message to the mobile station to transmit 15 the packet data ;

transmitting an ACK message to the mobile station for a prescribed time period in response to a detection ACK signal of the data rate request message from the mobile station; and

transmitting the packet data along with a power control signal after 20 transmitting the ACK message.

14. The packet data transmission method as claimed in claim 13, further comprising the step of dropping the packet data to be transmitted, upon failure to receive a detection ACK signal of the data rate request message from 25 the mobile station.

15. The packet data transmission method as claimed in claim 13, further comprising the steps of:

retransmitting the data rate request message after suspending 30 transmission of the data rate request message for a prescribed time, upon failure

to receive a detection ACK signal of the data rate request message from the mobile station; and

dropping the packet data to be transmitted, upon failure to receive the detection ACK signal until a number of transmitting the data rate request 5 message reaches a prescribed number.

16. The packet data transmission method as claimed in claim 13, wherein the data rate request message is comprised of a prescribed number of identical power control bits.

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17. The packet data transmission method as claimed in claim 13, wherein the ACK message is comprised of a prescribed number of identical power control bits.

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18. A packet data transmission method of a mobile station in a mobile communication system supporting packet data transmission, comprising the steps of:

gating on/off a reverse signal transmitted to a base station, after completion of packet data communication; and

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resuming the reverse transmission, upon receipt of a data rate request message for requesting transmission of a data rate from the base station when there is no data communication between the base station and the mobile station .

19. The packet data transmission method as claimed in claim 18, 25 wherein upon resumption of the reverse transmission, transmission power of the reverse signal is increased little by little from predetermined initial access power for a prescribed time.

20. The packet data transmission method as claimed in claim 18, 30 further comprising the step of controlling transmission power of the reverse

signal according to a power control bit received from the base station, upon receipt of an ACK message responding to the reverse transmission from the base station.

5        21.      The packet data transmission method as claimed in claim 18, further comprising the steps of:

      retransmitting the reverse signal performed for the prescribed time, upon failure to receive an ACK message responding to transmission of the reverse signal, from the base station; and

10        dropping packet communication upon failure to receive the ACK message until a number of transmitting the reverse signal reaches a prescribed number.

22.      The packet data transmission method as claimed in claim 18, 15 further comprising the steps of:

      retransmitting the reverse signal performed for the prescribed time, upon failure to receive an ACK message responding to transmission of the reverse signal, from the base station;

20        suspending the transmission of the reverse signal for a prescribed time, resuming the reverse transmission and then determining whether the ACK message is received, if the number of transmitting the reverse signal reaches a prescribed number; and

      dropping packet communication upon failure to receive the ACK message until a number of the suspensions reaches the prescribed number.

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23.      The packet data transmission method as claimed in claim 18, wherein the data rate request message is comprised of a prescribed number of identical power control bits.

30        24.      The packet data transmission method as claimed in claim 20,

wherein the ACK message is comprised of a prescribed number of identical power control bits.